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Precautionary Approaches for Health and the Environment: Making the Case for a Toxics Reduction Strategy at Multnomah County and City of Portland

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Precautionary Approaches for Health and the Environment

Making the Case for a Toxics Reduction Strategy at Multnomah County and the City of Portland

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MULTNOMAH COUNTY

CITY OF PORTLAND, OREGON 1851

Section 1

The Problem

Introduction

This report summarizes an overview of the problem, local concerns, model policies, and best practices for toxic pollution prevention and provides recommendations for next steps to protect human health and the local environment in Portland and Multnomah County. This report accompanies the Multnomah County and City of Portland resolutions to "Recognize National Pollution Prevention Week and develop a Toxics Reduction Strategy jointly with City of Portland / Multnomah County using the Precautionary Principle."

On April 20, 2004 the Sustainable Development Commission (SDC) of Portland and Multnomah County and the Oregon Center for Environmental Health sponsored the ***Precautionary Principle Workshop: A New Approach for Protecting Human Health and the Environment.*** Over 120 people from local government, environmental groups, academia, and the community gathered to learn about this common-sense approach to pollution prevention. Speakers included Multnomah County Commissioner Maria Rojo De Steffey, Multnomah County Health Department Director Lillian Shirley, and Director of the San Francisco Office of the Environment, Jared Blumenfeld.

The workshop was successful in initiating a dialogue locally about prevention of toxic pollution and protection of human health. One outcome of the workshop was the formation of a workgroup consisting of local leaders and members of the community. This workgroup was created to develop policy recommendations to Multnomah County and the City of Portland on toxics issues and the use of the precautionary principle. This report was developed to accompany the joint resolution being proposed by the SDC for adoption by the city and county that will recognize National Pollution Prevention Week and develop a Toxics Reduction Strategy using the precautionary principle at Multnomah County and City of Portland government.

Overview of the Problem

Exposures to toxic pollution in the environment are linked to negative impacts for human health as well as ecosystem health. While the impacts of toxics and toxic pollution are often viewed as an environmental problem, the impacts are felt in the health of the economy and of members of the community. Viewed holistically, toxic pollution compromises the sustainability of the economy, and community, *and* the environment, making it a key sustainability issue.

Scientific evidence has shown that the right to a safe and healthy environment is compromised by the presence of toxic pollution in the environment and in the human body. Chronic diseases and disabilities affect more than 100 million men, women, and children in the United States, which is more than one-third of the total population (Collaborative for Health and the Environment, 2004). Cancer, asthma, birth defects, developmental disabilities, autism, endometriosis, infertility, and Parkinson's disease are becoming increasingly common; these serious health problems are linked to chemical exposures from air, water and food, homes, schools and workplaces. (World Bank, Toxics and Poverty, 2002; Lockwood, 2000). Cancer causes one out of every four deaths in the U.S. today. In the 1940's a woman's lifetime risk of being diagnosed with breast cancer was 1 in 22; today, it is 1 in 8.

The prevalence of asthma and learning disabilities is associated with environmental exposures and has been growing rapidly. Currently, over 20 million Americans have asthma (CHE, 2004), and learning disabilities affect between 5 percent and 10 percent of children in public schools (APHA, 2004). Such chronic conditions are now the leading cause of disability, acute illness, and death. These conditions

affect nearly 1 in 2 Americans, and cost $325 billion yearly in health care costs and loss of productivity (PEW Environmental Health Commission, 2001).

How Toxics Impact Health & the Environment

Toxics in the Environment

Toxic substances cause negative impacts to human health or to wildlife; many are synthetic chemicals or are unintentional by-products. Many of these toxics are persistent, meaning that they do not readily biodegrade and persist in the environment. Toxics can also be bioaccumulative, meaning that they become more concentrated as they move up the food chain. Toxic pollution in the environment or toxics in products can lead to human exposures to these toxics.

Exposure to Toxics

Exposure to toxic substances contributes to the increase in disease. Various pathways of human exposure to toxic substances in the environment lead to "body burden," defined as the amount of toxic chemicals present in the human body. There are an estimated 700 contaminants present within the human body (U.S. EPA, 1987). Many of these chemicals are found in commonly-used products such as pesticides, cosmetics, hair products, food dyes, cleaning products, fuels, and plastics. Toxicological screening data exists for only 7 percent of the 85,000 registered chemicals. More than 90 percent of these chemicals have never been tested for their effects on human health (Goldman, L.R. & Koduru, S. 2000).

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A group of chemicals of particular concern are persistent bioaccumulative toxics (PBTs). These chemicals build up in the food chain (bioaccumulation) and do not break down easily, and pose serious health risks to humans and the environment. They are associated with a wide range of health effects, including damage to the nervous and reproductive systems, developmental disabilities, cancer, and genetic mutations. PBTs can travel long distances and transfer easily between air, water, and land (U.S. EPA, 2004).

Children's Exposure to Toxics

Mounting scientific data demonstrates that children and developing fetuses are at higher risks for adverse environmental health effects and suffer disproportionately from toxics (CDC, 2003). Aside from their size difference as compared with adults, children are more likely to accumulate toxins in their bodies as a result of exposure to toxics in the environment. Globally, more than three million children under the age of five die every year from polluted air and water and other environmental-related hazards (World Health Organization, 2004). Childhood cancer is the leading cause of disease-related death among children in the U.S. Cancer incidence rates are increasing by approximately 1% each year among all sexes and races combined (Schmidt, 1998). It is estimated that the total costs associated with diagnosis and treatment of illness in American children that is due to environmental pollutants is $54.9 billion annually (Landrigan, Schechter, Lipton, Fahs, & Schwartz, 2002).

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Toxic Exposures and Environmental Justice

Low income and politically marginalized communities are more likely to live in neighborhoods with poorer air quality or in close proximity to land contaminated with toxic hazardous waste (Bullard 1983, Bryant and Mohai 1992). One pivotal report sponsored by The United Church of Christ Commission for Racial Justice (UCCCRJ) entitled, *Toxic Waste and Race in the United States*, found race to be the single most important factor, more important than income, in the location of abandoned toxic waste sites (UCCCRJ 1987). According to the UCCCRJ study, 60 percent (15 million) of African Americans live in communities with one or more of these toxic sites. Similarly, the 1983 U.S. General Accounting Office (GAO) reported that three out of four toxic waste landfills in the southern United States were placed in areas inhabited chiefly by minorities or the poor (GAO 1983). Another study showed that all five of the landfills and seven of the eight municipal incinerators in Houston, Texas were located in areas largely inhabited by African American or Hispanic populations (Bullard 1983). Additionally, the National Law Journal found that the penalties issued by the US EPA pursuant to U.S. hazardous waste laws at sites having the greatest white population were about 500% higher than penalties at sites with the greatest communities of color (Lavelle and Coyle 1992). Such unequal enforcement and regulation contributes to polluting in communities of color.

Local Impacts of Toxics in our Community

Local Environmental Health Impacts

- Oregon is among the eight states with the highest adult asthma prevalence estimates (DHS, 2004).
- In 2002, an estimated 7% of children and 9% of adults in Multnomah County had asthma, with evidence indicating that asthma rates were higher in areas of poorer air quality (Multnomah County Health Department, 2003).
- In NE Portland, where National Air Toxics Assessment (NATA) data shows that air toxics are emitted in higher concentrations, asthma rates were twice as high (14%) (Multnomah County Health Department, 2003).

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- Oregon's cancer incidence rate (475.4 per 100,000) is higher than the national average (464.2 per 100,000), and Multnomah County has the third highest incidence rate in the state (545.9 per 100,000) (National Cancer Institute, 2001).
- A recent survey, conducted by the Oregon Environmental Public Health Tracking program, found that the most frequently identified environmental hazards or exposures of concern from the public were lead exposure or poisoning (73%), indoor air issues (70%), water pollution (67%), outdoor air pollution (57%), and chemical spills or releases (53%) (Oregon DHS, 2004).

Local Impacts on the Indoor and Outdoor Environment

- Fourteen air toxics in Multnomah County exceed health-based benchmarks, with six pollutants more than 10 times national health standards.
- Six of seven waterways examined in Multnomah County are ranked by the Oregon Department of Environmental Quality as poor or very poor (Multnomah County Health Department, 2003).
- A section of the Willamette River, known as the Portland Harbor, has received designation as a "Superfund" site, which are sites that have been contaminated by hazardous waste and identified by the US Environmental Protection Agency (EPA) as candidates for cleanup because they pose a risk to human health and/or the environment. (Multnomah County Health Department, 2003).
- Fish is unsafe to eat in 16 waterways in Oregon due to toxic contamination, including the Willamette River (DHS, 2004).
- According to the Oregon Department of Environmental Quality, there are 155 sites in Multnomah County designated as brownfields with confirmed hazardous wastes (Multnomah County Health Department, 2003).

- Seventy-one percent (71%) of homes built in North, Northeast and Southeast Portland have lead dust levels that exceed federal standards (Multnomah County Health Department, 2003).

Section 2

The Solution

Best Practices for Preventing Toxic Pollution

Policies that focus on reducing toxics in the environment through pollution prevention have increased over the last five years. The following summary provides a relevant sample of the growing number of laws, policies, and agreements based on the precautionary principle.

Use of the Precautionary Principle

Using a precautionary approach as a policy framework is an effective way to support prevention of toxic pollution and to prevent harm to the environment, human health, wildlife, and ecological systems. The precautionary principle is an approach to decision-making which requires consideration of the full range of direct and indirect costs of actions to public health and the environment. It includes taking anticipatory action to prevent harm when a threat of harm is known. Is also includes evaluation based on the best available science. The duty to prevent harm is shared by government, business, community groups, and the general pubic.

> "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action."
>
> —1998 Wingspread Conference Statement on the Precautionary Principle

Policies for Preventing Toxic Pollution

The following section provides a sample of the growing number of laws, policies, and other agreements that support prevention of toxic pollution and toxics use reduction, and/or incorporate the precautionary principle.

International

- International Persistent Organic Pollutants (POPs) Treaty: In 2001, the U.S. signed this treaty based on the precautionary approach to reduce and/ or eliminate the production, use, and/or release of 12 persistent organic pollutants. POPs are chemical substances that persist in the environment, bioaccumulate through the food web, and pose a risk of causing adverse effects to human health and the environment. (International POPs Elimination Network, 2003).

National

- U.S. Pollution Prevention Act: This 1990 federal law established prevention as the highest priority in environmental programs in the U.S. (EPA, 1990).
- National Environmental Policy Act (NEPA): This federal law requires that any project receiving federal funding which may pose serious harm to the environment undergo an Environmental Impact Study, demonstrating that there are no safer alternatives (U.S. Department of Energy, 1982).
- U.S. President's Council on Sustainable Development: In 1999, the Council stated, "We believe that even in the face of scientific uncertainty, society should take reasonable actions to avert risks where the potential harm to human health or the environment is thought to be serious or irreparable" (President's Council on Sustainable Development, 1999).

State and City

- Indoor Air Quality laws: More than a dozen states have enacted laws on school indoor air quality, typically requiring building assessments, local health & safety committees, and funding provisions for remedial work. New York was the first state to promulgate regulations requiring schools to protect children from construction dust and fumes. Connecticut, New Jersey and Massachusetts have approved policies to prevent exposures to contaminants in schools, including asbestos and chemical fumes (Be Safe Network, 2004).
- Municipal dioxin resolutions: The San Francisco Bay Area has approved Dioxin Resolutions in five cities, established dioxin-free purchasing requirements for local governments and set up a Bay Area Government Task Force to implement dioxin pollution prevention practices (San Francisco Department of Environment, 2003).
- Washington State Persistent Bioaccumulative Toxics (PBT) Phase Out Plan: The Washington State Department of Ecology established a plan in 2000 for phasing out the use of persistent, bioaccumulative toxic chemicals in the state, including mercury and dioxin, by 2025 (Washington Department of Ecology, 2000).
- Seattle PBT Reduction Resolution: In 2002, the City of Seattle, Washington, approved a resolution to reduce its use of PBT's and institute a PBT reduction workplan (City of Seattle, 2002).
- Municipal pesticide bans: In 1996, San Francisco passed an ordinance to phase out the use of pesticides on city property over three years. Eight New York municipalities have followed suit. The city of Seattle, Washington established a policy in 1999 that ended the use of the most hazardous insecticides and fungicides, and in 200. It established six pesticide-free parks (Be Safe Network, 2004).
- San Francisco Environmental Ordinance on the Precautionary Principle: In 2003, San Francisco added this ordinance to existing precautionary-based laws, including an arsenic-treated wood ordinance, an Integrated Pest Management plan, a healthy air ordinance, and a pilot Environmentally Preferable Purchasing Program, were placed under the newly created San Francisco Code Ordinance, which mandates the adoption of the precautionary principle throughout the city and county of San Francisco (San Francisco Department of Environment, 2003).
- Massachusetts Toxic Use Reduction Act: This state law requires manufacturing firms to identify ways to reduce use of industrial chemicals with a comprehensive analysis of viable alternatives (Massachusetts Department of Environmental Protection, 1997).

Oregon Policies

- Oregon Mercury Reduction Act: In 2001, this became the first law in the nation to ban mercury in thermostats, as well as in thermometers, auto switches, and other consumer products (EPA, 2004).
- Oregon Sustainability Act: Adopted in 2001, this act directed the State of Oregon to develop and promote proposals that jointly and mutually enhance local economies, the environment, and community health for the present and future benefit of Oregonians (Sustainable Oregon, 2001). The 2003 update stated that Oregon's economic recovery will be aided by establishing a commitment to lasting solutions that simultaneously address economic, environmental and community well-being. We should not continue to trade one essential aspect of well-being off against another, but we should take actions that will sustain Oregon's assets and put Oregon on the path to long-term prosperity in all aspects of life (Sustainable Oregon, 2003).

- Oregon PBT Phase-Out Executive Order: In 1999, Oregon's Governor approved an Executive Order directing the state environmental agency to reach zero discharge of PBTs by 2020 (DEQ, 1999). The EO directed the Oregon Department of Environmental Quality (DEQ) to develop a Toxics Reduction Strategy to reduce or eliminate the use of toxic chemicals, encourage the use of alternatives that do not contain toxic chemicals, to prevent new sources of toxic chemicals, and to clean up historical sources of toxic chemicals (DEQ, 2003).

Local Policies

- Multnomah County Sustainability Principles: States that "Multnomah County will take necessary precautions to prevent toxic pollution and waste through proactive measures" (Multnomah County, 2004).
- City of Portland Sustainability Principles: States that the City of Portland will "Prevent additional pollution through planned, proactive measures rather than only corrective action; Enlist the community to focus on solutions rather than symptoms; Purchase products that are… non-toxic." (City of Portland, 1994).
- Sustainable Procurement Strategy: In 2002 Portland City Council and Multnomah County Board of Commissioners adopted a joint strategy to consider environmental, social, and economic factors when making purchasing decisions (Multnomah County, City of Portland, 2002).
- City of Portland's Green Building Initiative: Promotes non-polluting and resource-efficient building and site design practices throughout the city. The Green Building Initiative sets aggressive goals and recommends a set of strategies to develop cost-effective solutions for builders, developers, and building owners and users (City of Portland, 1999).

Economic Aspects of Toxic Pollution Prevention

A Toxics Reduction Strategy based on the precautionary principle would initiate economic development by creating new opportunities for local business to provide safer products, processes, and technologies. The precautionary principle does not challenge the need for economic development, but it reminds us of our larger responsibility to provide safer products that contribute to healthier communities (San Francisco Department of Environment, 2003).

True Costs of Toxic Products

Toxic substances have negative impacts at all stages of the product life cycle, including manufacture, use, and disposal. The purchase price of most products does not reflect the full monetary or non-monetary costs of the product. Use of toxic substances such as mercury, asbestos, lead, or chlorine-based substances in production processes can result in dangerous emissions, by-products, and ingredients in final products (San Francisco Department of the Environment, 2003). Precautionary principle approaches would consider negative and positive externalities when estimating the full costs associated with a product. (San Francisco Department of the Environment, 2003).

Pollution Prevention Lowers Business Costs

Pollution prevention lowers business costs related to pollution control, liability, and worker safety. There are two types of costs associated with pollution prevention: "seen" costs (e.g., equipment purchase costs, hazardous waste disposal costs) and "hidden" costs (e.g., insurance and hazardous waste liability, employee health benefits). The Massachusetts Toxics Use Reduction Act (TURA) requires manufacturing firms to develop plans to reduce toxic waste, emissions, and use. From 1990 to 1999, Massachusetts companies reduced chemical waste by 57 percent, the use of toxic chemicals by 40 percent, and chemical emissions by 80 percent *while saving $15 million*. This figure does not include other benefits which are non-

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quantifiable, such as health, safety, and environmental benefits (Massey and Ackerman, 2002).

In addition, manufacturers may modify products and processes voluntarily to avoid costs and harm to the public. Recently, for example, a number of manufacturers stopped using chemicals called phthalates in toys, cosmetics, and some medical equipment and are developing alternatives for these uses (Massey and Ackerman, 2002). As public awareness grows of toxic hazards and the ease of using safer alternatives, the markets of the twenty-first century will increasingly demand safe products and sustainable technologies (San Francisco Department of Environment, 2003).

Quality of life, which is a key reason businesses locate in the Portland Metropolitan area, is associated with social, economic and environmental indicators. Precautionary approaches help lower risk of illness linked to pollution while promoting economic vitality and sustainability. Numerous resources assist businesses in incorporating sustainability and precaution such as The Natural Step (for sustainable enterprise), Portland's Green Building Guidelines (for building and architecture), and the Principles of Green Chemistry. Over 80 local businesses have been awarded the City of Portland's Businesses for Environmentally Sustainable Tomorrow (BEST) designation and the winners have collectively saved $13.2 million a year by incorporating sustainable practices.

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Societal costs for diseases related to toxic substances, such as loss of wages, increased expense for special education, and medical treatment, are preventable through pollution prevention. While resources are spent to treat and compensate for environmentally induced illnesses, evidence suggests that it is cost effective to replace toxic chemicals with safer alternatives. For example, it is possible to eliminate the mercury emissions that pollute our air, rainwater, and fish.

Section 3

Recommendations

Recommendations for Further Action

Every resident of Portland and Multnomah County has an equal right to a healthy and safe environment. In order to achieve this goal locally, our government, citizens, and businesses must work together to ensure that our air, water, soil and food are safe. As a first step in reaching this goal, the Sustainable Development Commission recommends the city and county resolve to do the following:

Next Steps for Multnomah County and the City of Portland

To support formation of and participate in a workgroup made up of delegates from the City of Portland, Multnomah County, the Sustainable Development Commission, and the community to create a Toxics Reduction Strategy for government operations utilizing the precautionary principle. The strategy should identify short-term and long-range goals for toxics reduction in government operations and identify actions to support those goals.

These actions may include:

(1) Conducting an inventory of toxic substances in use at both agencies.
(2) Prioritize toxic substances found in the inventory for replacement with safer alternatives. Include development of guidelines to eliminate the twelve priority PBTs ("Dirty Dozen") that have been identified by the EPA as toxic to humans and the environmental.
(3) Prepare a policy for adoption by the City of Portland and Multnomah County which integrates the precautionary principle into existing processes and develop action plan with "benchmarks" toward meeting identified goals within one year of adoption of this resolution.

Summary

It is the responsibility of government, residents, community groups and businesses to enhance, protect and preserve Portland / Multnomah County's environment. Creating a diverse workgroup to establish a Toxics Reduction Strategy for Portland and Multnomah County will enable us to take a precautionary approach to ensure a healthy and thriving community, economy, and environment for future generations.

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